

DETAILED ACTION

1. Applicant's arguments filed January 31, 2011 in the Appeal Brief have been fully considered but they are persuasive with respect to claims 1-5.

2. In particular, the Applicant's Terminal Disclaimer filed on September 04, 2007 fails to overcome the Double Patenting rejection because the Terminal Disclaimer contains indefinite language (items: 155 and 156) as those statutes do not cover the same rights. It is further suggested to Applicant to see end of Chapter 1400 or the form paragraphs in 1490 for TD clarity.

3. **Noted: The TD was not approved due to the indefinite language by Patent Legal Research Center.**

In view of the above reasons, the double patenting rejection is maintained as follows.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Instant Application 10/730390	US Patent No. 6,697,330
1. (original) A method for initiating flow control in a network multiplexer that forwards a message descriptor referencing a communications packet received by a receiving port to one or more transmit queues, each transmit queue associated with a transmitting port which transmits	1. A method for initiating flow control in a network multiplexer that forwards a message descriptor referencing a communications packet received by a receiving port to one or more transmit queues, each transmit queue associated with a transmitting port which transmits

<p>communications packets queued to the transmit queue, the method comprising: providing each transmitting port in the network multiplexer with a high threshold and a low threshold; when a message descriptor is queued to a transmit queue associated with a transmitting port, when the transmit queue currently contains a maximum number of message descriptors, discarding the message descriptor, and when the transmit queue currently contains a number of message descriptors equal to or greater than the high threshold of the associated transmitting port, sending a flow control request to the receiving port that received the communications packet referenced by the queued message descriptor.</p> <p>3. (previously presented) The method of claim 1 further including: when a transmitting port transmits a packet referenced by a message descriptor to a</p>	<p>communications packets queued to the transmit queue, the method comprising: providing each transmitting port in the network multiplexer with a high threshold and a low threshold; when a message descriptor is queued to a transmit queue associated with a transmitting port, when the transmit queue currently contains a maximum number of message descriptors, discarding the message descriptor, and when the transmit queue currently contains a number of message descriptors equal to or greater than the high threshold of the associated transmitting port, sending a flow control request to the receiving port that received the communications packet referenced by the queued message descriptor, and when the transmit queue currently contains a number of message descriptors greater than or equal to the low threshold of the associated transmitting port, but the number of message</p>
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<p>destination port, releasing the message descriptor, and when the destination port currently contains a number of queued message descriptors equal to one less than the destination port's low threshold, sending a release flow control request to any receiving ports to which a flow control request was sent while the transmit queue contained a number of message descriptors equal to or greater than the high threshold of the associated transmitting port.</p>	<p>descriptors contained in the transmit queue exceeded or equaled the high threshold of the associated transmitting port more recently than the number of message descriptors contained in the transmit queue was equal to the low threshold of the associated transmitting port, sending a flow control request to the receiving port that received the communications packet referenced by queued message descriptor.</p> <p>2. The method of claim 1, further including: when a transmitting port transmits a packet referenced by a message descriptor, releasing the message descriptor, and when the destination port currently contains a number of queued message descriptors one less than the destination port's low threshold, sending a release flow control request to any receiving ports to which a flow control request was sent while the transmit queue contained a number of</p>
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	message descriptors greater than or equal to the low threshold of the associated transmitting port.
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5. **Claims 1, 3** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim1 of U.S. Patent No. 6,697,330 B1.

Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following:

Regarding claim 1 (Instant Application 10/730390), claim 1, of patent number 6,697,330 B1 discloses a method for initiating flow control in a network multiplexer that forwards a message descriptor referencing a communications packet received by a receiving port to one or more transmit queues, each transmit queues, each transmit queue associated with a transmitting port which transmits communication packets queued to the transmit queue, the method comprising: (a) providing each transmitting port in the network multiplexer with a high threshold and a low threshold;

(b) when a message descriptor is queued to a transmit queue associated with a transmitting port, and (c) when the transmit queue currently contains a maximum

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number of message descriptors, discarding the message descriptor, and (d) when the transmit queue currently contains a number of message descriptors equal to or greater than the high threshold of the associated transmitting port sending a flow control request to the receiving port that received the communications packet referenced by the queued message descriptor.

Applicant's claim 1 merely broaden the scope of patent number 6,697,330 claim 1 by eliminating the elements "when a message descriptor is queued to a transmitting queue associated with a. transmitting port", and "when the transmit queue currently contains a number of message descriptors greater than or equal to the low threshold of the associated transmitting port, but the number of message descriptors contained in the transmit queue exceeded or equaled the high threshold of the associated transmitting port more recently than the number of message descriptors contained in the transmit queue was equal to the low threshold of the associated transmitting port, sending a flow control request to the receiving port that received the communications packet referenced by the queued message descriptor" from claim 1 of the patent.

It has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. In re karlson, 136 USPQ 184 (CCPA). Also note Ex Parte Raine, 186 USPQ 375 (bd. App. 1969); omission of a reference element whose function is not needed would have been obvious to one skilled in the art.

Regarding claim 3 (Instant Application) , claim 2 (US Patent 6,697,330)

discloses the corresponding claimed features as shown in the above table.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. **Claims 6, 8, 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenik et al (US 5,933,429).

Regarding claim 6 (previously presented) Bubenik '429 discloses a network multiplexer system (see, fig. 1, fig. 9, Switching apparatus 1 with crossbar switch 10 for generating flow control using XOFF and XON signals) that links physically separate network media (fig. 1, fig. 9, input port 14, link 24, input queue 26 with plurality of buffers and queue 28 of the output buffers, col. 3, lines 9-26) by forwarding packets received from each network medium to a number of network media (see, data cells transmission from the input port to the output port, col. 3, lines 17-26), the network multiplexer system (see, fig. 1, fig. 9, Switching apparatus 1 with crossbar switch 10 for generating flow control using XOFF and XON signals) comprising: a number of ports(fig. 1, fig. 9, input port 14, link 24, input queue 26 with plurality of buffers and queue 28 of the output buffers, col. 3, lines 9-26), each port having a transceiver (fig. 1, fig. 9, input port and output port are capable of receiving and transmitting data cells from one to another) and a communications controller (see, fig. 1, controller 18 coupled to input port 14 and output port 16 respectively); a memory (fig. 1, fig. 9, see, RAM 32 with plurality of input buffers); an internal bus for transferring packets from ports to memory and from memory to ports (fig. fig. 1, fig. 9, crossbar data switch 10 for data cells transport from input queue, input port to output port queue, col. 2, lines 65-68, col. 3, lines 4-9); a receive queue (fig. 1, fig. 4, see, input queue 26) and a transmit queue (fig. 1, fig. 9, output queue 28) associated with each port that contain message descriptors (see, data cell identified by pointer, link number and port number indicative

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of the output queue descriptor, col. 7, lines 8-16) that each references a communications packet stored in memory (see, pointer, link list or descriptor identifying a cell in the input and output buffers, col. 6, lines 54 to col. 7, lines 7, fig. 1, fig. 9, see output queue 28 with plurality of buffers); a high threshold (see, XOFF feedback message as the high threshold used for halting transmission from the input to the output port buffer, col. 3, lines 49-65) and a low threshold associated with each transmit queue (see, XON threshold as the low threshold, col. 4, lines 10-23); an indication of ports to which flow control requests have been made associated with each port; and an indication of the number of flow control requests made to a port associated with each port (see, XOFF feedback messages as the high threshold used for halting transmission from the input to the output port buffer, col. 3, lines 49-65).

In view of the above, it would have been obvious to one of ordinary skill in art to associate the XOFF signal with the high threshold and the XON signal as the low threshold in order to perform control using halt signal.

Regarding claim 8 (previously presented) the network multiplexer wherein, when a message descriptor is forwarded to a port for transmission, and when the transmit queue of the port contains a number of message descriptors greater than or equal to the high threshold associated with the port, a flow control request is sent to the port that received the communications packet referenced by the message descriptor (see, XOFF feedback message as the high threshold used for halting transmission from the input to the output port buffer, col. 3, lines 49-65) and a indication that a flow control

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request has been sent to the port that received the communications packet is saved by the port to which the message descriptor is forwarded (see, XOFF state bits in the descriptor, col. 3, lines 49-65).

Regarding claim 10 (original) the network multiplexer wherein, when a port removes a message descriptor from the transmit queue associated with the port, and when the number of messages contained in the transmit queue currently equal one less than the low threshold associated with the port (see, XON message permitting the resumption data cell, messages back to the output port buffer, col. 4, lines 11-23), a release flow control message is sent to each port referenced by indications saved by the port (see, XON message received by the input port buffer from the output port buffer, col. 4, lines 17-23).

10. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenik et al (US 5,933,429) in view of Wu et al (US 5,165,021).

Bubenik '429 discloses all the claimed limitation as set forth above except failing to teach or suggest claimed features:

Regarding claim 7, when a message descriptor is forwarded to a port for transmission, and when the transmit queue of the port is full, the message descriptor is dropped.

However, Wu '021 from a similar field of endeavor discloses the above claimed features:

Regarding claim 7, when a message descriptor is forwarded to a port for transmission (see, packet descriptor transmitted to the transmit queue, col. 2, lines 52-54, col. 10, lines 33-35), and when the transmit queue of the port is full, the message descriptor is dropped (see, discarding the packet descriptor, col. 13, lines 61-64, when the number of free blocks greater than a loadshedding factor by comparing the number of free blocks with the loadshedding factor, col. 2, lines 30-38, lines 48-58, the loadshedding represent an amount of free space in the transmit queue, col. 2, lines 66-68, the transmit queue as link list, col. 3, lines 5-6, see, the number of the number of queue locations being greater than loadshedding value associating with packet descriptor, col. 13, lines 46-60).

In view of the above, having the multipoint network switch for generating flow control using XOFF and XON of Bubenik '429, The transmit queue with loadshedding where a packet descriptor is discarded when the number of free blocks or queue locations is greater than the loadshedding value of Wu '021 it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching features of Bubenik '429 by implementing the discarding of packet descriptor as taught by Wu '021 into the network switch of Bubenik. The motivation would have been to provide traffic policing by dropping the packet or frame descriptor when the transmit queue threshold is exceeded.

Allowable Subject Matter

11. Claims 2, 4-5, 9 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Janoska et al (US 6,539,024 B1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CANDAL ELPENORD whose telephone number is (571)270-3123. The examiner can normally be reached on Monday through Friday 8:00AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Bin Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Candal Elpenord/
Examiner, Art Unit 2473

May 5, 2011

/KWANG B. YAO/
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